

THE ROLE OF NEWER INTUBATION DEVICES IN DIFFICULT INTUBATION PROTOCOLS: A PAN BIRMINGHAM SURVEY.

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Introduction. In 2004 the DAS guidelines were published for management of the unanticipated difficult tracheal intubation in adults¹. Following a failed intubation both the ILMA and LMA provide a conduit for oxygenation, ventilation and subsequent fiberoptic intubation, and were identified as essential components of the secondary tracheal intubation plan. However, newer intubation devices like the LMA CTrach and Airtraq optical laryngoscope, introduced after the publication of the DAS guidelines, are now available and provide an indirect view of the glottis without the need for fiberoptic endoscopy. Whilst these newer devices have many favourable features and advantages², and are being introduced into clinical practice, they remain largely the subject of trials and research³. Consequently, their role within future guidelines and protocols for managing difficult intubation has not yet been fully determined. This pan Birmingham survey was designed to establish which devices are being used, the level of training in their use and whether newer intubation devices have been incorporated into local difficult intubation protocols.

Methods. Following audit approval, 108 questionnaires were sent to all of the consultants and final year trainees in anaesthesia at the University Hospital, City Hospital and Heartlands Hospital in Birmingham. The questionnaire described a scenario in which a ‘can mask ventilate, can’t intubate’ fasted patient with a grade III view of the glottis, requires tracheal intubation for urgent surgery. Four questions followed: 1. What were their first and second choice devices to facilitate tracheal intubation?; 2. Was the ILMA in their secondary intubation plan?; 3. Were they trained to use the ILMA?; 4. Indicate on a 100 mm visual analogue scale (VAS), the ease of intubation using the ILMA (from 0 = extremely easy to 10 = extremely difficult).

Results. 64% of the population replied to the survey. 88% of the questionnaires returned were from consultants and 12% from final year trainees. The preferred first choice method of intubation in the ‘can mask ventilate, can’t intubate’ patient was fiberoptic endoscopy (77%) then the ILMA (22%). The preferred second choice method of intubation (38%) was newer intubation devices (particularly the Airtraq), then fiberoptic endoscopy (32%) and the ILMA (30%). The ILMA featured in 45% of the secondary intubation plans and 44% had been trained to use it. The median VAS for the ease of intubation using the ILMA was 50 mm with an inter-quartile range from 20 - 60 mm and range from 20 - 80 mm.

Conclusions. In Birmingham, fiberoptic endoscopy remains the preferred method of managing the ‘can mask ventilate, can’t intubate’ patient. The ILMA was not felt to be particularly easy to use, less than half of the anaesthetists surveyed were trained to use it and it featured in less than 50% of the secondary intubation plans. Of the newer intubation devices the Airtraq laryngoscope (30%) was the preferred second choice method of managing difficult intubation. We anticipate that once their value has been proven, these newer intubation devices and techniques will feature in the DAS list of recommended equipment for management of difficult intubation.

References.

1. JJ Henderson, et al. *Anaesthesia* 2004; **59**: 675–694.
2. JL Tong. *J Royal Army Med Corps* 2007; **153**: 181-3
3. Y Hirabayashi, et al. *Anaesthesia* 2008; **63**: 635-40.